Jack Liu

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EDUCATION

University of Waterloo   Waterloo, Ontario, Canada
Bachelor of Software Engineering, Honours   *2020 - 2025*

EXPERIENCE

Software Development Intern   Jan 2024 - May 2024
Amazon   *Toronto, ON*
- Built and maintained 4 different Java APIs to fetch and update delivery station settings hosted on ECS Fargate and leveraging AWS CloudAuth
- Developed a full-stack internal system using Harmony and Amazon APIGateway to allow configuration of location settings in anticipation of large traffic influxes
- Created a landing page for the migration of internal tooling with ReactJS to modularize UI code

Software Engineering Intern   Sep 2022 - Dec 2022
BitGo   *Palo Alto, CA*
- Constructed 4 complete data pipelines which streamed over 20 TB of market and trade data to the Snowflake data warehouse, leveraging Kafka, Debezium, and AWS Simple Storage Service
- Scheduled hourly tasks to ingest new data throughout 12 databases with Python and Apache Airflow
- Designed and maintained over 15 functions to assist fetching financial information using SQL
- Implemented data hashing with to encrypt user-sensitive data from analytics processes with Python

Software Engineering Intern   Jan 2022 - Apr 2022
JamLabs Data Science   *Mississauga, ON*
- Conserved over 50% of data retrieval costs by allowing users to query CSV and Parquet data through API calls to only select their required rows of data using ExpressJS and AWS Athena queries
- Established email verification via AWS Simple Email Service to send Scrypt security tokens to new accounts
- Implemented trial accounts for product demonstrations with an ExpressJS backend and a ReactJS frontend
- Provided admin customers with overarching functions to manage all sub-accounts in one place with AWS Lambdas

Software Developer Intern   May 2021 - Aug 2021
Axonify   *Waterloo, ON*
- Enhanced user engagement and accessibility via text translation using Java and Google Cloud Translation API
- Implemented a cache system for frequent translations with Java Database Access Objects and SQL to improve product efficiency and cost, with options to edit and clear caches
- Revamped the error messaging system to more accurately describe problems for customers

Software Developer Intern   May 2021 - Aug 2021
Axonify   *Waterloo, ON*
- Conserved over 10MB of cloud storage space daily with an automatic file purging using Java's JDBC and SQL
- Improved customer security by enforcing minimum password strengths based on permissions with Java
- Streamlined clearing legacy code scripts across file trees with Python

PROJECTS

Prosperity 2 by IMC | *NumPy, QuantLib, Pandas*   Apr 2024 - May 2024
- Competed in IMC's International Quantitative Trading Competition and placed 8th in Canada and 176th globally out of 9161 teams (top 2%)
- Designed and implemented high-frequency trading algorithms using ETF arbitrage, marking making, and Black-Scholes techniques
- Calculated optimal trades using Game Theory tactics during manual trading rounds

Stock and Crypto Price Analyzer | *BeautifulSoup4, NumPy, Pandas, SciPy*   June 2021 – Dec 2021
- Fetched S&P 500 stocks and popular cryptocurrency prices with a web scraper to store and analyze
- Suggested buys and sells based on High-Quality Momentum and Quantitative Value investing strategies.

TECHNICAL SKILLS

Languages: Python, C++, Java, JavaScript, SQL, HTML/CSS
Technologies: Git, Amazon Web Services, Bash, GitHub, ReactJS, Docker, Snowflake